REMARKS

Claim Rejections under 35 U.S.C. 103(a)

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over BUTSCHER (4,605,933) in view of LEE (6,839,028).

Claim 1 as amended, includes the limitation of a match tab **electrically connects with the radiating element** and a feeder cable comprises an inner conductor electrically and **mechanically connecting with the match tab**.

Butscher at least fails to disclose these features. As a matter of fact, Butscher teaches away from that teaching. As disclosed in Figure 2, Butscher discloses an impedance matching tab 24 extends upward from the lower ground plate 12 to the region in front of the radiating disk 20 (column 2, lines 55 –57 of the description). Apparently, instead of teaching that the match tab electrically connects with the radiating element, the match tab 24 extends away from the from the ground plate 12 while **fails to reach to the radiating disk 20** (see column 2, lines 55-57). According to the disclosure, the coaxial feed line 30 **is directly interconnected to the radiating disk 20, not through the match tab 24**. Thus, Butscher fails to disclose a match tab electrically connecting with the radiating element and a feeder cable comprising an inner conductor directly connecting with match tab, as required by claim 1.

The features Butscher does not teach or suggest are not be disclosed by Lee. Lee mentions a microstrip antenna employing width discontinuities. A conventional microstrip antenna 100 is shown in Fig. 1 of Lee. The conventional microstrip antenna has a rectangular radiating patch 130. The length L and the width W of the rectangular radiating patch 130 are adjusted to achieve a desired resonant frequency (column 2, lines 25-29). In order to reduce the size of a microstrip antenna, the width discontinuities are introduced in the conventional

rectangular microstrip antenna (column 2, lines 52-54). Thus all of the first patch 202 and the pair of patches 204a, 204b are radiating patches so that Lee **fails to disclose a match tab**. The adjustment of impedance matching depends on the position of the feed point (column 3, lines 3-6). Due to scarcity of the matching tab, the features that a match tab electrically connects with the radiating element and a feed cable comprise an inner conductor directly connecting with match tab, as required by claim 1 are not disclosed by Lee.

On the other hand, the feeder point of Butscher is located on one side of the antenna while that of Lee is located between the pair of patches 204a and 204b. The structural difference precludes them from combining with each other for modification of either one.

For at least these reasons, claim 1 is not anticipated by Butscher and Lee. Accordingly, it is respectfully submitted that claim 1 and dependent claims 2-6 and 20 therefrom are allowable, wherein claim 20 further defines the mechanical connection between the match tab and the radiating element is achieved via a connection patch which is not grounded to the ground plane, thus further having its own patentability thereof.

With respect to claim 7, a planar mental sheet comprises a first element, a second element and a connecting patch connecting the first element with the second element and a feed cable comprises an inner conductor electrically and mechanically connecting with **the first element**.

Butscher does not teach "a planar mental sheet comprises a first element, a second element and a connecting patch connecting the first element with the second element" as claimed in claim 7 (see DETAILED ACTION Page 6, line 3). Lee does not teach "a planar mental sheet comprises a first element, a second element and a connecting patch connecting the first element with the second element and a feed cable comprises an inner conductor electrically connecting with

the first element". Lee mentions a microstrip antenna comprises a pair of patches 204a, 204b and **a first patch 202 (corresponding to "the connecting patch"** in claim 7) connecting with the pair of patches 204a, 204b. The coaxial feed point 206 is disposed **in the first patch 202** at a location so as to match input impedance of the antenna with a coaxial cable (column 3, lines 35-37). But claim 7 discloses that the feed point is disposed **in the first element not in the connecting patch.** In order to realize impedance matching and perfect performance of antenna, the feed point of the antenna can not be altered optionally. Thus it is not obvious to displace the feed point from the connecting patch to the first element.

For at least these reasons, claim 7 is not anticipated by Butscher and Lee. Accordingly, it is respectfully submitted that claim 7 and dependent claims 8-11 therefrom are allowable.

With respect to claim 12, claim 12 further defines a feature "the **connection patch has a characteristic impedance same as that of the input impedance of the second element.**

The microstrip antenna of Butscher **does not comprise a connection patch** connecting the matching tab 24 with the radiating disk 20, so that the feature "the connection patch has a characteristic impedance same as that of the input impedance of the second element" as claimed in claim 12 is not taught by Butscher.

Lee, furthermore, fails to disclose the first patch 202 (corresponding to connection patch) having a characteristic impedance same as that of the input impedance of the patch 204a or the patch 204b.

For at least these reasons, claim 12 is not anticipated by Butscher and Lee. Accordingly, it is respectfully submitted that claim 12 and dependent claims 12-19 therefrom are allowable wherein patentability of the subject matter in claim 19 has

been explained in the previous paragraphs.

Favorable reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above remarks, applicants believe that the claims now pending are in a condition for allowance. Favorable consideration is respectfully requested.

Respectfully submitted,
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